

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: BENAZZI et Al

Serial No.: 10/807,502

Filed: 03/24/2004



Examiner: SAMPLE DAVID R

Group Art Unit: 1755

For : Catalyst comprising at least one zeolite chosen from ZBM-30, ZSM-48 EU-2 and EU-11 and at least one Y zeolite and process of hydroconversion of hydrocarbon charges using such a catalyst.

DECLARATION UNDER 37 C.F.R. §1.132

Assistant Commissioner for Patents

Washington, D.C. 20231

Sir :

I, Slavik KASZTELAN, being duly warned, declare and say as follows:

THAT, I am a French citizen holding the titles of Engineer delivered by "Ecole des Hautes Etudes Industrielles de Lille" in 1982, of "Docteur ès Sciences" delivered by "Université de Lille" in 1984, residing at 69006 Lyon, France, 97 quai Charles de Gaulle.

THAT, I have been engaged on research by "Institut Français du Pétrole" in their Kinetics and Catalysis Department since 1988, where I have been continuously and actively in charge of researches in the fields of hydrocracking, hydroisomerization, dewaxing and hydrogenation of aromatic compounds. I was since September 2002 to April 2006 the manager of the Division "Catalysis and Separation". I am since May 1st, 2006, the Assistant Manager of the whole Refining and Petrochemical Division.

I declare further :

THAT, I am familiar with the contents of U.S. Patent Application Serial No 10/807,502

THAT in order to support patentability of the present application, I have supervised the following experiments :

Comparative example

A ZSM-48 is used to prepare the catalyst C3 as in example 1 (catalyst C1) of the present application, with the same Y zeolite, in the same proportion..

The oxides contents by weight of C3 are the same as in example 1 : 3.0%NiO, 14,0% MoO₃, 4.6% P₂O₅.

Catalyst C3 is tested as in example 2 of the present application, with the same feedstock.

Results of the test are given in table 4 , as well as results from table 3 of the present application:

Table 4: Catalytic activities of the catalysts in hydrocracking high conversion crude (80%)

Reference	Composition	T(°C)	Crude selectivity in middle distillate (150-380°C) (%) by weight)	Viscosity index VI 380°C* measured after dewaxing with solvent (MIBC)
C1	NiMoP/ZBM-30+Y – Al ₂ O ₃	384	67.8	123
C2	NiMoP/Y – Al ₂ O ₃	386	65.4	118
C3	NiMoP/ ZSM-48+Y – Al ₂ O ₃	386	66.1	120

* MIBC = methyl isobutyl ketone

That these results show that both selectivity and viscosity index are improved with ZBM-30+Y catalyst comparative to ZSM-48+Y catalyst and that temperature for obtaining the same level of conversion is decreased.

That such results show that the catalyst containing ZBM-30 and Y zeolite show higher performances than the catalyst comprising ZSM-48 and Y zeolite.

The undersigned declares further that all statements made herein of this own knowledge are true and that all statements made on information or belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 Title 18 of United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Rueil, December 12, 2006.

Slavik KASZTELAN